Montgomery County Maryland
Department of Permitting Services

Division of
Land Development
Services

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For Staff Use Only

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Underground Stormwater Management Facility Plan Review Checklist

Project Name: _____ **Engineer/Phone No.** _____

Sediment Control Permit No.: _____ _____

SWM File No.:_____ **Assigned/Phone No.** _____

Plan Type: _____

Submittal Date	Review Date	Initial
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Legend:

	e
INC	Incomplete/Incorrect
N/A	Not Applicable
SC	Sediment Control
SWM	Stormwater Management
FPDP	Floodplain District Permit
DA	Drainage Area
SPA	Special Protection Area

Plan Acceptable Date

_____

This checklist has been developed to provide specific instruction to engineers. All items are expected to be addressed in the first submittal. Failure to do so may result in less than a full first review.

TO THE ENGINEER:

Your submission for Underground Stormwater Management Facility Plan approval has been reviewed. The review was made per the following checklist. **Please return the checklist and plan comment sheets with your resubmittal.** The second submission must include payment of the balance of the review fee in order to be accepted for further review. If you do not address a checklist item, including comments on the plan sheets, explain your reasoning in your transmittal letter.

SUPPORTING INFORMATION (One Copy)

____	____	____	Stormwater Management Design Plan Information Form (IF-1)
____	____	____	Maintenance Easement and Covenant Documents
____	____	____	Itemized Stormwater Management Construction Estimate.
____	____	____	Drainage Area Map (200-scale, or larger, with site and drainage area boundaries) showing: off-site areas; pre-developed and ultimate land uses with corresponding acreage; pre-developed and ultimate development time of concentration (Tc) flowpaths).
____	____	____	Soils map with site and drainage area(s) outlined.
____	____	____	Storm drain plans for any areas not draining directly to the facility (must show safe structural conveyance).
____	____	____	Storm drain systems conveying off-site storm water must meet public (MCDPW&T) storm drainage system standards.
____	____	____	Storm drain plans and computations for storm drains leading to the underground facility.

STORMWATER MANAGEMENT COMPUTATIONS (One Copy)

____ ____ ____ Runoff determinations: pre-developed and ultimate development (any existing developed off-site areas considered as pre-developed for release but not for storage of the 2-year storm).

____ ____ ____ Stormwater Management provided for one half of contiguous rights-of-way or planned non-state roads, and new construction within state road rights-of-way. Roadway areas not draining to a facility shall be compensated for.

____ ____ ____ Time of concentration determinations.

____ ____ ____ Elevation-storage computations.

____ ____ ____ Elevation-discharge computations (provide equations and site references).

STORMWATER MANAGEMENT PLAN (One Copy)

A. PLAN VIEW OF FACILITY AT SCALE OF 1" = 50' OR LESS (40', 30', ETC.)

____ ____ ____ Existing and final contours (1' or 2' interval)

____ ____ ____ Existing and proposed improvements.

____ ____ ____ Delineation of outfall or downstream storm drain, control structure, storage facility and entire storm drain system.

____ ____ ____ Facility and manhole location to allow easy access and maintenance.

____ ____ ____ Outflow pipe, outlet protection (detail required), outfall channel.

____ ____ ____ Existing and proposed utility location.

____ ____ ____ Maintenance access from public right-of-way, minimum width 15', maximum grade 15% - mechanically stabilized, 10% maximum without mechanical stabilization.

____ ____ ____ Maintenance easement (shall include: storage chamber, control structure, outfall, any related appurtenances, access points, minimum width allowance for repair work.

B. PROFILE OF ENTIRE SYSTEM AND ASSOCIATED DETAILS

1. GENERAL ITEMS

____ ____ ____ Only pipes and concrete vaults allowed for storage cambers.

____ ____ ____ Circular pipes only.

____ ____ ____ All slopes, inverts, and dimensions.

____ ____ ____ Minimum 48" height of storage chamber and cross-overs.

____ ____ ____ Gage and corrugation size for metal pipe.

____ ____ ____ Watertight pipe or storage chamber.

____ ____ ____ Coupling band detail.

____ ____ ____ Grated, vented manholes on upstream and downstream ends of storage chamber for access, cleaning, and venting.

____ ____ ____ Maximum of 150' chamber length between manhole access points.

____ ____ ____ For metal pipe, add note that the pipe ends must be matched and numbered.

2. CONTROL STRUCTURE (DETAILS REQUIRED)

____ ____ ____ Reinforced concrete only (shop drawings for precast structures need approval of the design engineer and acceptance by MCDPS prior to fabrication). Add note to that effect on the plan.

____ ____ ____ Plan view with top slab removed.

____ ____ ____ Cross-sections each direction.

____ ____ ____ Top slab reinforcing detail.

____ ____ ____ Reinforcing details for all cast-in-place concrete structures.

____ ____ ____ Submit copy of structural computations if cast-in-place.

____ ____ ____ Weir crest and 2- and 10-year water surface elevations.

____ ____ ____ Orifice dimensions and location.

____ ____ ____ Orifice trash rack.

____ ____ ____ Protective coating for exposed metals.

____ ____ ____ Manhole access to both sides.

____ ____ ____ Maximum manhole step spacing of one foot on center.

3. OUTFALL PROTECTION (DETAIL REQUIRED)

____ ____ ____ Size for 10-year storm – use SCS methodology.

____ ____ ____ Cross-section at end of channel in accordance with receiving section.

____ ____ ____ Outfall dimensions.

____ ____ ____ Slope – 0%

____ ____ ____ Median riprap size (d_{50}).

____ ____ ____ Thickness ($2.0 \times d_{50}$)

____ ____ ____ Approved filter cloth.

C. MISCELLANEOUS ITEMS

____ ____ ____ Title block (subdivision name with lots and blocks for which control is provided)

____ ____ ____ Inspector Checkoff List / Sequence of Construction

____ ____ ____ Stormwater Management Construction Specifications and General Notes.

____ ____ ____ Water quality considerations and construction runoff protection.

____ ____ ____ Certifications: Owner/Developer, Design, Structural, and Maintenance

____ ____ ____ Loadings for structural design specified on plan (H-20 for vehicular travel areas).

____ ____ ____ Miss Utility Note

____ ____ ____ Sealed by P.E.

ADDITIONAL REQUIREMENTS /COMMENTS: